

INDUSTRIAL WASTES SURVEY  
MAPLEWOOD POULTRY  
POULTRY PROCESSING

BELFAST, MAINE  
APRIL 5, 1971

MAPLEWOOD POULTRY AND POULTRY PROCESSING  
BELFAST BAY, BELFAST, MAINE  
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At the request of the United States Attorney for Maine, the outfalls from Maplewood Poultry Company and Poultry Processing Company, doing business as Penobscot Poultry, were resampled on April 5, 1971.

David Stonefield collected and Howard Davis witnessed the collection of all samples. Mr. Davis was in charge of laboratory analysis conducted in Belfast. Mr. Stonefield aided Mr. Davis in the analysis of the samples.

Maplewood Poultry

Maplewood Poultry, as described in the report of sampling on November 3 and 4, 1970, is located in Belfast, Maine, on the west side of Belfast Bay between the Veteran's Memorial Bridge and the old bridge across the bay (see Figure 1 of the November 3 and 4 report). On arrival at Maplewood Poultry Company at 1430 hours on April 5, Mr. Stonefield talked with Mr. Steven Glass, the plant manager. Mr. Glass gave the sampling crew permission to sample the outfall.

The southernmost outfall (Station MP-01) is a 24" concrete pipe which reportedly carries the waste from the picking room area where the birds are killed and plucked. The effluent was colored and varied markedly in quantity of flow (Figures 1 and 2).

The middle outfall (Station MP-02) is located below the high water mark just north of the ruins of an old pier. This 24" corrugated steel pipe reportedly carries the drainage from the preparing rooms. This

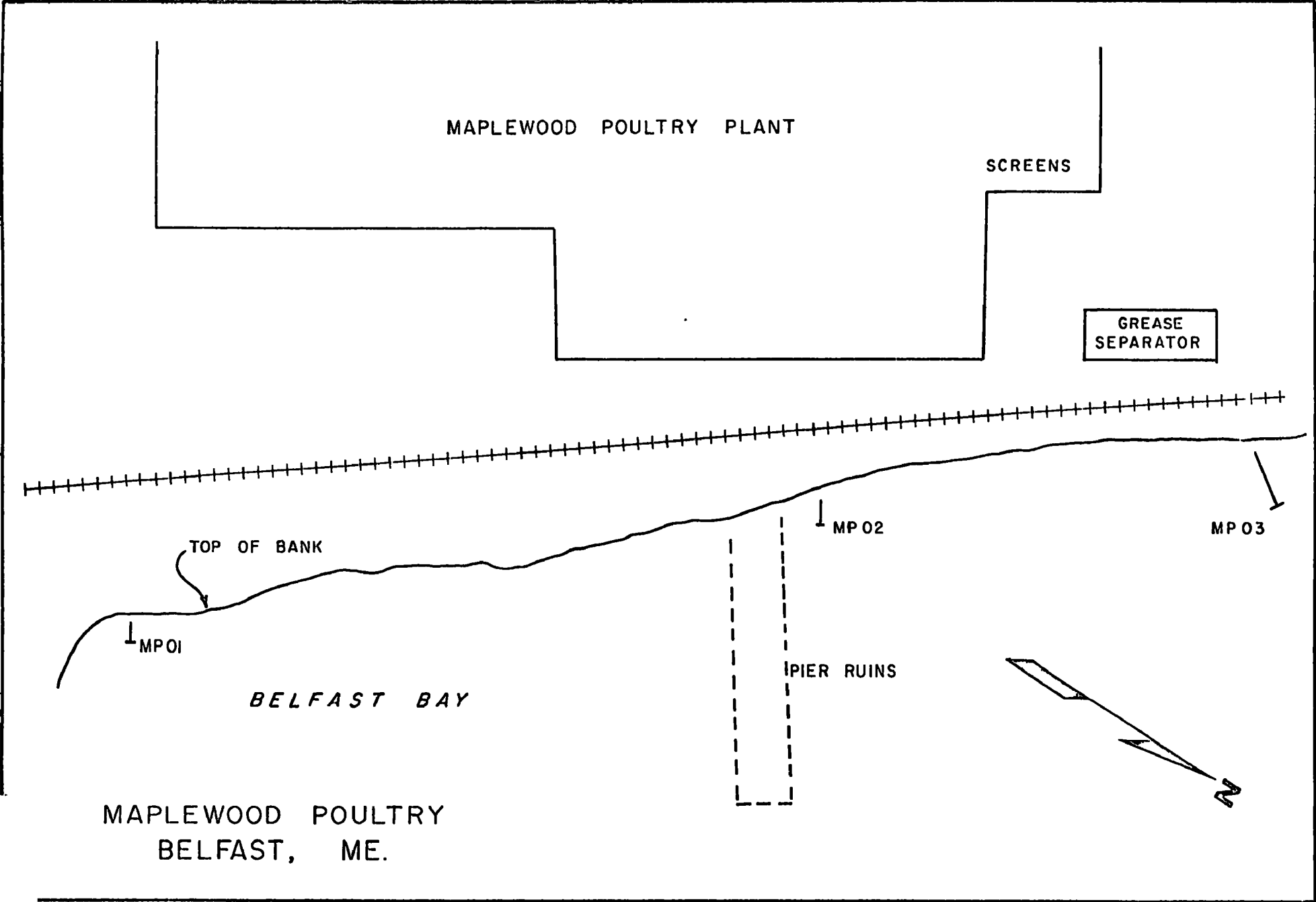


Figure 1

had the smallest flow of the three outfalls (Figures 1 and 3). The flow observed on April 5 was smaller in volume than was observed previously.

The northernmost outfall (Station MP-03) is a 30" corrugated steel pipe which carries the waste from the eviscerating area. The waste is the largest of three effluents and is passed through screens and a grease separator before discharge (Figures 1 and 3).

The effluent was very turbid and formed a white cloud along the bank of the bay (Figure 4).

#### Poultry Processing

Poultry Processing is also located on the west side of Belfast Bay in Belfast, Maine, as described in the report of the November 3 and 4 sampling. At 1400 hours on April 5, Mr. Stonefield obtained permission from Mr. Gilbert Knight, plant manager, to sample the effluent. The outfall is located just above the low water mark of Belfast Bay near the salt water pump house for the condenser cooling water (Figures 5 and 6). Two 12" pipes were discharging into the bay. The northernmost pipe appeared to be from the condenser and was not sampled. The southernmost pipe (Station PP-01) was highly colored and carried solids. It appeared to be the wastewater from the processing of the chickens.

When the sampling crew arrived the effluent was colored green. During the sampling, which took about five minutes, the color of the effluent varied from green to red and back to green. The oil and grease sample and the bacteria sample were collected when the effluent

was green. The general analysis sample was collected when the color was changing. As a result the sample was a composite of approximately 50 percent of the effluent when it was red and 50 percent of the effluent when it was green.

#### Sampling Procedures

One 250 ml sample for bacteria analysis, one quart sample for oil and grease analysis, and one gallon sample for general analysis were collected. The bacteria sampling bottle was used to collect and pour the samples into the gallon and quart cubitainers. Then the bacteria sample was collected in the bottle. The temperature of all samples was determined using a metal thermometer.

The bacterial sample and the general analysis sample were returned to the Belfast Motor Inn. In the rooms the bacterial sample was filtered for both total and fecal coliforms. The general sample was filtered for suspended solids, settled and filtered for settleable solids, and analyzed for pH and turbidity.

The oil and grease sample was preserved with 2 ml of concentrated sulfuric acid and returned to the NEBO laboratory for analysis. The filtered bacterial samples were incubated and returned to NEBO to be counted. The filtered suspended solid samples were returned to NEBO for drying and weighing.

#### Sample Identification

Each sample was tagged with one chain of custody tag giving collecting agency, lab number, time, date, source of sample, collector's signature and title, and witness's signature and title, plus information on the transfer of the sample. In addition, a pre-

numbered field data card was filled out for each collection time to record weather conditions, the temperature of the sample, and the sampling location.

### Results

Table 1 summarizes the results of the effluent analysis which are similar to the previous survey. These results show that Maplewood Poultry effluent, MP-01, and the Poultry Processing effluent, PP-01, were highly colored, turbid and contained large quantities of suspended solids. The oil-grease contents were above that of normal raw sewage.

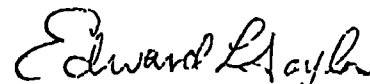
The turbidity, suspended solids, and oil and grease from Maplewood Poultry outfall MP-03 were extremely high, more than double the values obtained in previous surveys.

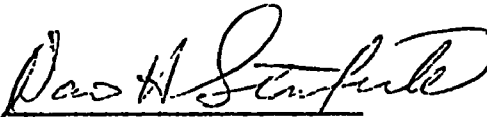
The effluent from the other outfall from Maplewood Poultry MP-02 changed little since the last survey.

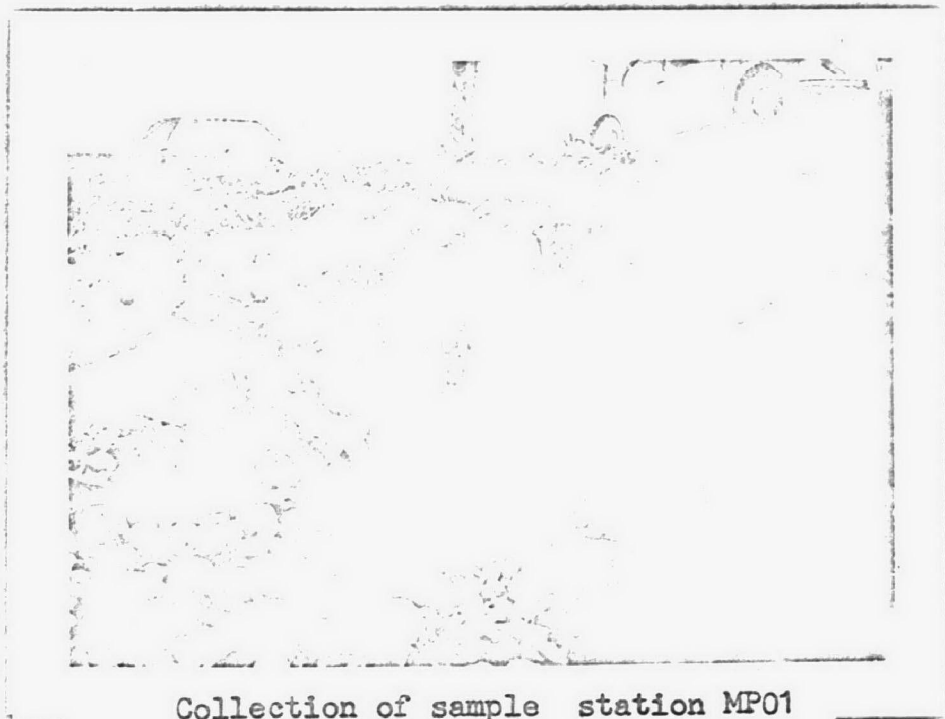
TABLE 1  
SUMMARY OF DATA  
MAPLEWOOD POULTRY AND POULTRY PROCESSING

Lab No.	Station	Date	Time	Temp. °C	Turb. JU	pH Units	Set. Solids mg/l	Susp. Solids mg/l	Oil & Grease mg/l	Total Coliform per 100 ml	Fecal Coliform per 100 ml
27106	MP-01	4/5/71	1440	24.0	> 300	7.4	149	521	144	21,000,000	> 1,000,000
27107	MP-02	4/5/71	1450	17.5	> 9	7.4	3	24	18	61,000	1,000
27108	MP-03	4/5/71	1500	10.5	> 300	7.3	317	936	522	840,000	280,000
27105	PP-01	4/5/71	1420	14.0	> 70	7.3	152	395	196	3,000,000	1,800,000

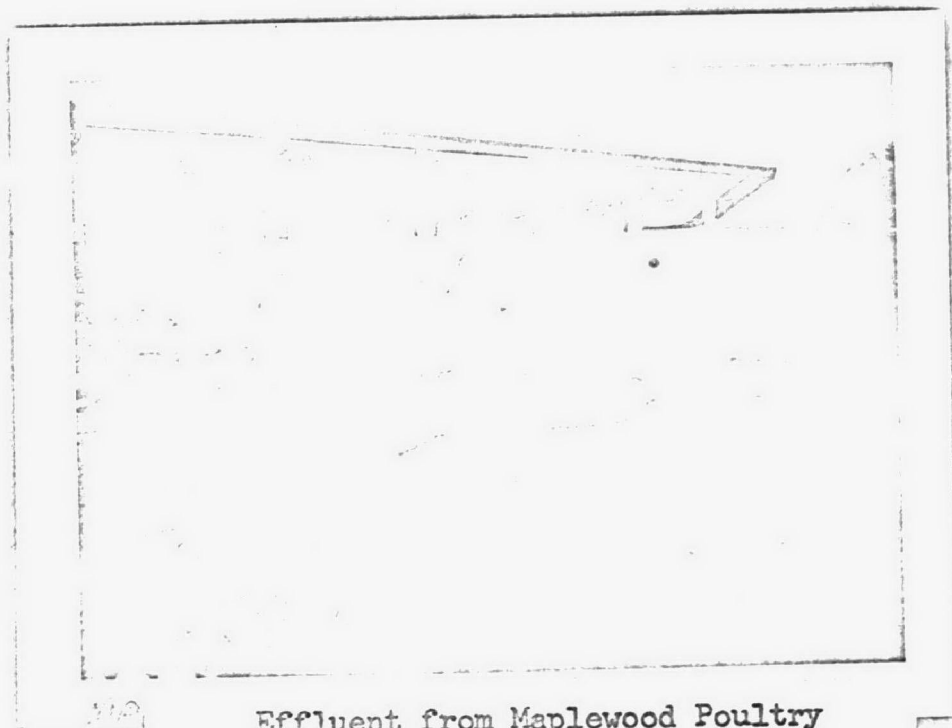
Tests were performed according to FWQA Standard Methods and data was verified.

  
Supervisory Chemist  
Laboratory Branch

  
Sanitary Engineer  
Field Investigations Section



Collection of sample station MP01  
1440 Hrs. 4-5-71  
Maplewood Poultry Co. Belfast, Me.

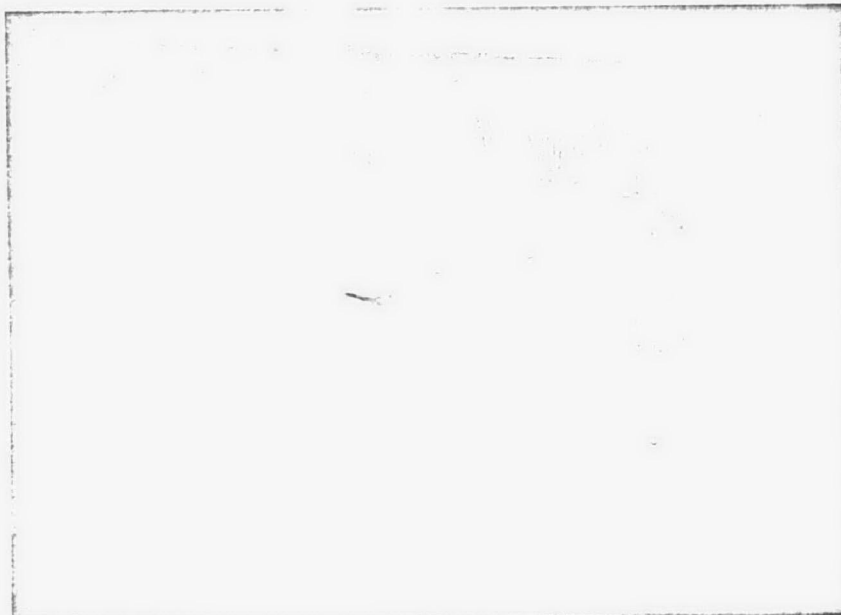


Effluent from Maplewood Poultry  
Co. outfall MP01  
Belfast, Me.

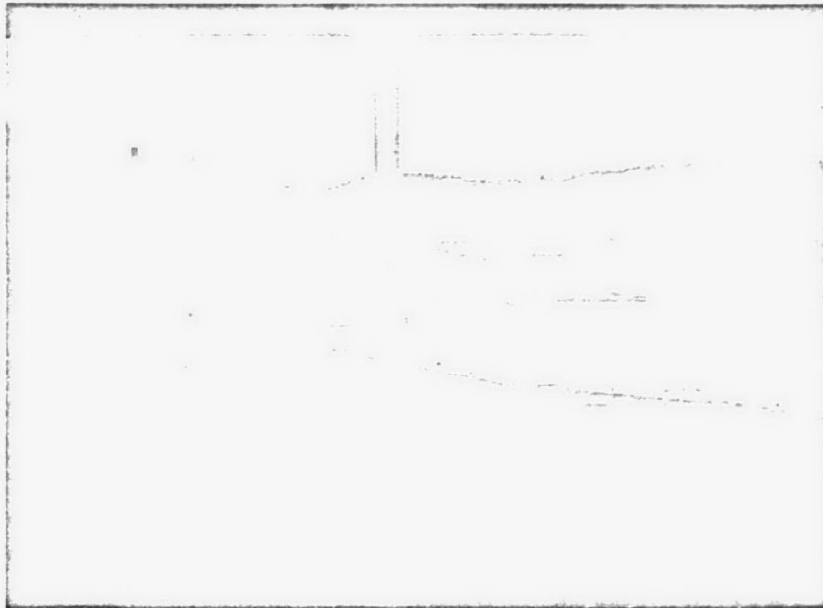




14  
Collection of sample station MP02  
1450 Hrs. 4-5-71  
Maplewood Poultry Co. Belfast, Me.



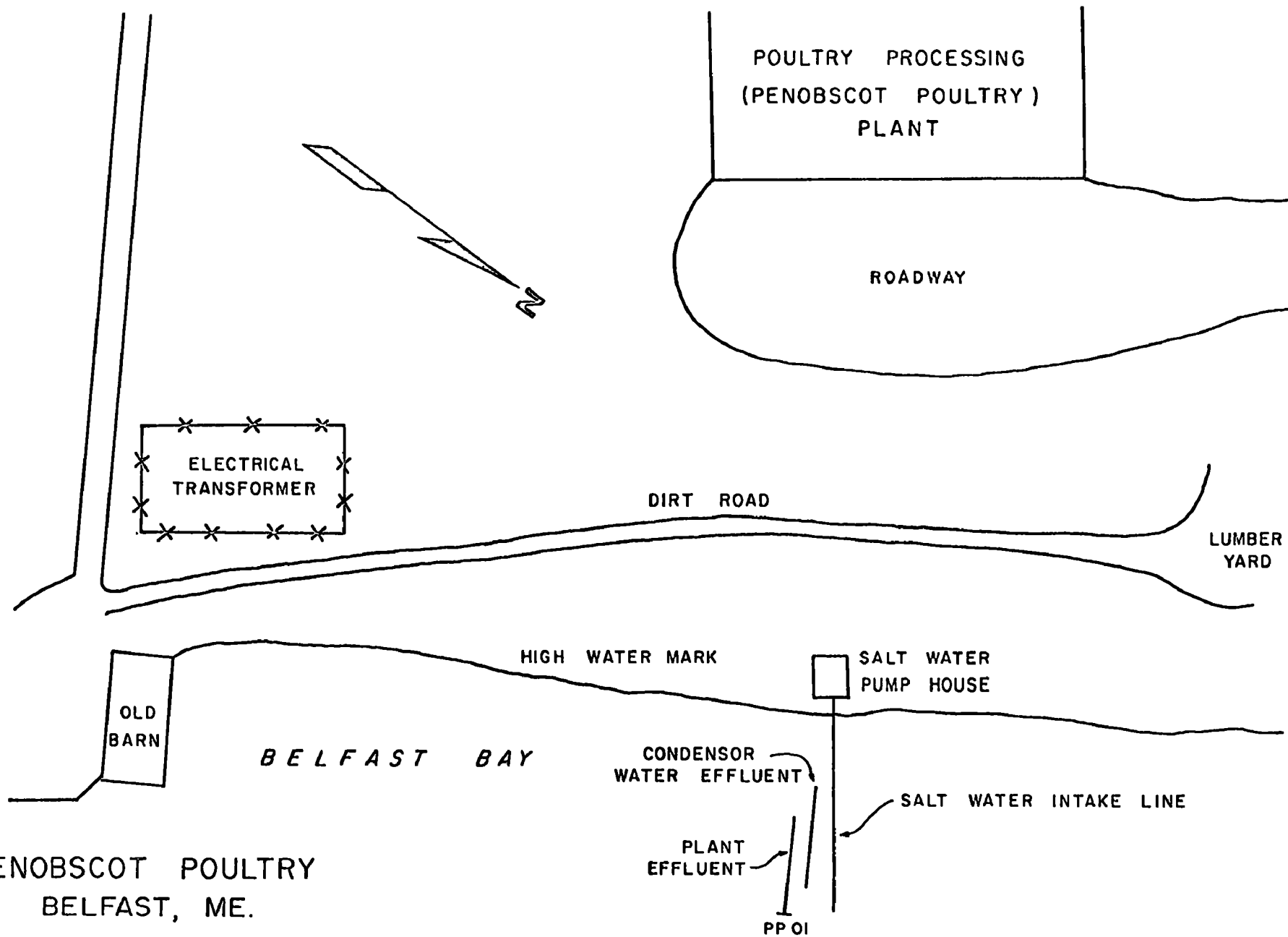
15  
Collection of sample station MP03  
1455 Hrs. 4-5-71  
Maplewood Poultry Co. Belfast, Me.



Effluent from Maplewood Poultry Co.  
outfall MP03  
Belfast, Me.



Effluent from Maplewood Poultry Co.  
outfall MP03  
Belfast, Me.



PENOBSCOT POULTRY  
BELFAST, ME.



Collection of sample from Poultry  
Processing outfall PP01  
Belfast, Me. 1420 Hrs. 4-5-71



Collection of sample from Poultry  
Processing outfall PP01  
Belfast, Maine. 1420 Hrs. 4-5-71